STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

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COMMISSIONER

Blue Hill Memorial Hospital
Hancock County
Blue Hill, Maine
A-543-71-L-R/A

Departmental
Findings of Fact and Order
Air Emission License

After review of the air emissions license renewal and amendment application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. Blue Hill Memorial Hospital (Blue Hill) has applied to renew their Air Emission License permitting the operation of emission sources associated with their health care facility.

2. Blue Hill has requested an amendment to their license in order to replace failed Boiler #2, with a new boiler, designated Boiler #5.

3. The equipment addressed in this license is located at 57 Water Street, Blue Hill, Me.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Maximum Capacity (MMBtu/hr)	Maximum Firing Rate (gal/hr)	Fuel Type, % sulfur	Stack #
Boiler #3	4.2	30	#2 fuel oil, 0.5% S	1
Boiler #4	4.34	31	#2 fuel oil, 0.5% S	1
Boiler #5	4.34	31	#2 fuel oil, 0.5% S	1

Electrical Generation Equipment

Equipment	Horse Power (HP)	Firing Rate (gal/hr)	Fuel Type, % sulfur	Stack #
Generator 1	285	14.6	Diesel, 0.05%S	2
Generator 2	316	16.2	Diesel, 0.05%S	3

C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

Pollutant	Current License (TPY)	Future License (TPY)	Net Change (TPY)	Sig. Level
PM	1.39	1.39	0	100
PM_{10}	1.39	1.39	0	100
SO_2	3.76	3.76	0	100
NO_x	7.90	7.80	-.10	100
CO	1.41	1.38	-.03	100
VOC	0.41	0.38	-.03	50

This modification is determined to be a minor modification and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Boiler # 3, #4 and #5

Exiting Boiler #3 was manufactured in 1973 and has a maximum design heat input of 4.2 MMBtu/hr. Existing Boiler #4 was manufactured in 2004 and has a maximum design heat input of 4.34 MMBtu/hr.

New Boiler #5 is a Weil McLain Series 88 unit, manufactured and installed in 2007, and has a maximum design heat input of 4.34 MMBtu/hr.

These boilers are therefore not subject to the New Source Performance Standards (NSPS) 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, for units greater than 10 MMBtu/hr manufactured after June 9, 1989.

A summary of the BPT for Boiler # 3 and #4, and BACT for Boiler #5 is the following:

1. The total fuel use for the facility shall not exceed 150,000 gallons per year of ASTM D 396 compliant #2 fuel oil, based on a 12 month rolling total, with a maximum sulfur content not to exceed 0.5% by weight.
2. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content, however in this case BPT/BACT analysis determined a more stringent limit of 0.5% was appropriate and shall be used.
3. The SO_2 emission limits are based on the firing of fuel which meets the criteria in ASTM D396 for #2 fuel oil.
4. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits. The PM_{10} limits are derived from the PM limits.

5. NO_x emission limits are based on data from similar #2 oil fired boilers of this size and age.
6. CO and VOC emission limits are based upon AP-42 data dated 9/98.
7. Visible emissions from the combined stack serving Boilers #3, #4 and #5 shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1) six (6) minute block average in a continuous 3-hour period.

C. Emergency Generators

Blue Hill operates two emergency generators for electrical generation. Generator #1 is rated at 14.6 gallons per hour (180 kW), and Generator #2 is rated at 16.2 gallons per hour (200 kW). Both generators fire diesel fuel oil with a maximum sulfur content to exceed 0.05% by weight.

Emergency Generator is defined as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary engines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary engines used to pump water in the case of fire or flood. Stationary engines used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Generators #1 and #2 were ordered before July 11, 2005 and manufactured before April 1, 2006. Therefore, the generators are not subject to New Source Performance Standards 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*.

A summary of the BPT analysis for Generator #1 and #2 is the following:

1. Generators #1 and #2 shall fire only diesel fuel with a maximum sulfur content not to exceed 0.05% by weight.
2. Generators #1 and #2 shall be limited to 500 hours per year, each, of total operation based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
3. 06-096 CMR 106 regulates fuel sulfur content, however in this case a BPT/BACT analysis for SO_2 determined a more stringent limit of 0.05% was appropriate and shall be used.
4. 06-096 CMR 103 regulates PM emission limits. The PM_{10} limits are derived from the PM limits.

5. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
6. Visible emissions from each of the emergency generators shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period.

D. Annual Emissions

Blue Hill shall be restricted to the following annual emissions, based on a 12 month rolling total and the following limits:

- 150,000 gallons of ASTM D396 #2 fuel oil fired in Boilers #3, #4 and #5 combined, with a maximum sulfur content not to exceed 0.35% by weight;
- 500 hours per year of operation of each of Generators #1 and #2, firing diesel fuel with a sulfur content not to exceed 0.05% by weight.

Total Licensed Annual Emissions for the Facility
Tons/year
(Used to calculate the annual license fee)

	PM	PM_{10}	SO_2	NO_x	CO	VOC
Boiler #3, #4, #5	1.26	1.26	3.70	3.15	0.38	0.02
Generator #1	0.06	0.06	0.03	2.21	0.48	0.18
Generator #2	0.07	0.07	0.03	2.45	0.53	0.19
Total TPY	**1.4**	**1.4**	**3.8**	**7.8**	**1.38**	**0.4**

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Modeling and monitoring are not required for a renewal if the total emissions of any pollutant released do not exceed the following:

Pollutant	Tons/Year
PM	25
PM_{10}	25
SO_2	50
NO_x	100
CO	250

Based on the total facility licensed emissions, Blue Hill is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-543-71-L-R/A subject to the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
2. pursuant to any other requirement of this license to perform stack testing.

B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
C. submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 CMR 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) **Boilers #3, #4 and #5**

A. Total fuel use for Boilers #3, #4 and #5 shall not exceed 150,000 gal/yr of ASTM D396 #2 fuel oil with a maximum sulfur content not to exceed 0.5% by weight. Compliance shall be demonstrated by fuel records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. Records of annual fuel use shall be kept on a 12-month rolling total basis. [06-096 CMR 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #3	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Boiler #4	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Boiler #5	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

C. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #3	0.50	0.50	2.12	1.26	0.15	0.01
Boiler #4	0.52	0.52	2.19	1.30	0.16	0.01
Boiler #5	0.52	0.52	2.19	1.30	0.16	0.01

D. Visible emissions from the combined stack serving Boilers #3, #4 and #5 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(17) **Generators #1 and #2**

A. Blue Hill shall limit Generators #1 and #2 each to 500 hours per year of operation (based on a 12 month rolling total). An hour meter shall be maintained and operated on each Generator. [06-096 CMR 115, BPT]

B. The generators shall only be operated for maintenance purposes and for situations arising from sudden and reasonably unforeseeable events beyond the control of the source. The generators shall not be used for prime power when reliable offsite power is available. A log shall be maintained documenting the date, time, and reason for operation. [06-096 CMR 115, BPT]

C. The generators shall fire diesel fuel oil with a sulfur limit not to exceed 0.05% by weight. Compliance shall be based on fuel records from the supplier showing the quantity of fuel delivered and the percent sulfur of the fuel. [06-096 CMR 115, BPT]

D. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #1	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Generator #2	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

E. Emissions shall not exceed the following [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.24	0.24	0.10	8.82	1.90	0.70
Generator #2	0.27	0.27	0.11	9.97	2.11	0.78

F. Visible emissions from Generators #1 and #2, each, shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

(18) Blue Hill shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S.A. §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 10th DAY OF August , 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brooks for
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 3/16/09
Date of application acceptance: 3/31/09

Date filed with the Board of Environmental Protection: _____

This Order prepared by N. Lynn Cornfield, Bureau of Air Quality.